



Certified Validation Report Template, Part A: Provided by Validator

Audit Information:

Water System Name: Mesa Water District

Public Water System Identification (PWSID)¹: CA3010004

¹List only 1 PWSID, which should match the PWSID on the FWAS Instructions Tab. For Special cases where multiple water systems are connected with permanent two-way interties, list those additional PWSIDs in the **Notes** below and describe the water distribution system(s) configuration.

PWSID and Water System Configuration Notes (Provided to Validator by Water System):

n/a

Audit Period: 07/2020-6/2021

Validation Date: 12/14/2021

Sufficient Supporting Documents Provided: Yes

Validation Findings & Confirmation Statement:

Key Audit Metrics:

Data Validity Score: 82 Data Validity Band (Level): IV

ILI: .58 Real Loss (gal/con/day): 10.59 Apparent Loss (gal/con/day): 15.34

Non-revenue water as percent of cost of operating system: 3.1

Certification Statement by Validator:

This water loss audit report has been Level 1 validated per the requirements of California Code of Regulations Title 23, Division 2, Chapter 7 and the California Water Code Section 10608.34.

All recommendations on volume derivation and Data Validity Grades were incorporated into the water audit. ☒

If not, rejected recommendations are included here:

Validator Information:

Water Audit Validator: Rachel Davis,

Qualifications: Water Audit Validator Certificate issued by the CA-NV Section of the AWWA

Municipal Water District of Orange County

Validator Provided

Certified Validation Report Template, Part B: Provided by Utility

Water System Name: Mesa Water District

Public Water System Identification (PWSID)²: CA3010004

²List only 1 PWSID, which should match the PWSID on the FWAS Instructions Tab. For Special cases where multiple water systems are connected with permanent two-way interties, those additional PWSIDs should have been listed in the Notes section on Page 1 by the Validator.

Water Audit & Water Loss Improvement Steps:

1. Steps Taken: Water System to identify steps taken in the preceding 3 years to increase data validity, reduce real loss, and reduce apparent loss as informed by the annual validated water audit:

Since 2018, Mesa Water® has taken the following steps to improve its water loss performance:

- Implemented highly accurate magnetic flow meters at all water production facilities
- Performed leak detection on approximately one third of the distribution system by length
- Performed accuracy testing on more than 1% of the customer meters in the system.
- Standardized on the Badger Recordall meter technology for all new customer meters and for the largest users.
- Implemented Badger's Eye On Water for large users to have real time access to their water use

2. Planned Steps (OPTIONAL): If your audit reflects negative real losses or the cost of non-revenue water is greater than 100% of the operating costs (issues for which your audit will not meet code requirements), you will be asked what steps you are planning in the coming year to address these issues. If you already know what steps you plan to take, you may list them here. If not, please prepare a response within 90 days (23 CCR Section 638.6[a]).

In FY22, Mesa Water® has contracted with MWDOC to perform another 90 miles of leak detection.

3. Certification Statement by Utility Executive:

This water loss audit report meets the requirements of California Code of Regulations Title 23, Division 2, Chapter 7 and the California Water Code Section 10608.34 and has been prepared in accordance with the method adopted by the American Water Works Association, as contained in their manual, *Water Audit and Loss Control Programs, Manual M36, Fourth Edition* and in the Free Water Audit Software version 5.

Executive Name (Print)

Paul E. Shoenberger, P.E.

Executive Position

General Manager

Signature

DocuSigned by:

Paul E. Shoenberger, P.E.

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Date

1/7/2022

Utility Provided

AWWA Free Water Audit Software: Reporting Worksheet										WAS v5.0 American Water Works Association		
<div style="display: flex; justify-content: space-around;"> Click to access definition Click to add a comment </div>		Water Audit Report for: Mesa Water District (CA3010004)										
		Reporting Year: 2020				7/2020 - 6/2021						
Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the												
All volumes to be entered as: ACRE-FEET PER YEAR												
To select the correct data grading for each input, determine the highest grade where												
WATER SUPPLIED		<----- Enter grading in column 'E' and 'J' ----->						Master Meter and Supply Error Adjustments				
		Volume from own sources:		<div style="display: flex; align-items: center;">+ ? 9</div>	<div style="border: 1px solid black; width: 100px; text-align: center;">16,264.500</div>	acre-ft/yr	<div style="display: flex; align-items: center;">+ ? 10</div>	Pcnt:	<div style="display: flex; align-items: center;">0.58% </div>	Value:		acre-ft/yr
		Water imported:		<div style="display: flex; align-items: center;">+ ? 7</div>	<div style="border: 1px solid black; width: 100px; text-align: center;">66.500</div>	acre-ft/yr	<div style="display: flex; align-items: center;">+ ? 7</div>		<div style="display: flex; align-items: center;">0 </div>			acre-ft/yr
		Water exported:		<div style="display: flex; align-items: center;">+ ? n/a</div>		acre-ft/yr	<div style="display: flex; align-items: center;">+ ? 7</div>		<div style="display: flex; align-items: center;"> </div>			acre-ft/yr
WATER SUPPLIED:					16,237.210	acre-ft/yr						
AUTHORIZED CONSUMPTION		Billed metered:		<div style="display: flex; align-items: center;">+ ? 9</div>	<div style="border: 1px solid black; width: 100px; text-align: center;">15,386.140</div>	acre-ft/yr						
		Billed unmetered:		<div style="display: flex; align-items: center;">+ ? n/a</div>		acre-ft/yr						
		Unbilled metered:		<div style="display: flex; align-items: center;">+ ? n/a</div>		acre-ft/yr						
		Unbilled unmetered:		<div style="display: flex; align-items: center;">+ ? 5</div>	202.965	acre-ft/yr						
Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed												
AUTHORIZED CONSUMPTION:				<div style="display: flex; align-items: center;">+ ?</div>	15,589.105	acre-ft/yr						
WATER LOSSES (Water Supplied - Authorized Consumption)					648.105	acre-ft/yr						
Apparent Losses		Unauthorized consumption:		<div style="display: flex; align-items: center;">+ ?</div>	40.593	acre-ft/yr						
Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed												
		Customer metering inaccuracies:		<div style="display: flex; align-items: center;">+ ? 7</div>	304.396	acre-ft/yr						
		Systematic data handling errors:		<div style="display: flex; align-items: center;">+ ? 5</div>	38.465	acre-ft/yr						
Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed												
Apparent Losses:				<div style="display: flex; align-items: center;">+ ?</div>	383.455	acre-ft/yr						
Real Losses (Current Annual Real Losses or CARL)		Real Losses = Water Losses - Apparent Losses:		<div style="display: flex; align-items: center;">+ ?</div>	264.650	acre-ft/yr						
WATER LOSSES:					648.105	acre-ft/yr						
NON-REVENUE WATER		NON-REVENUE WATER:		<div style="display: flex; align-items: center;">+ ?</div>	851.070	acre-ft/yr						
= Water Losses + Unbilled Metered + Unbilled Unmetered												
SYSTEM DATA		Length of mains:		<div style="display: flex; align-items: center;">+ ? 9</div>	<div style="border: 1px solid black; width: 100px; text-align: center;">328.4</div>	miles						
		Number of <u>active AND inactive</u> service connections:		<div style="display: flex; align-items: center;">+ ? 7</div>	<div style="border: 1px solid black; width: 100px; text-align: center;">22,315</div>							
		Service connection density:		<div style="display: flex; align-items: center;">+ ?</div>	68	conn./mile main						
		Are customer meters typically located at the curbside or property line?		<div style="display: flex; align-items: center;">+ ?</div>	Yes							
		Average length of customer service line:		<div style="display: flex; align-items: center;">+ ?</div>								
Average length of customer service line has been set to zero and a data grading score of 10 has been applied												
		Average operating pressure:		<div style="display: flex; align-items: center;">+ ? 7</div>	<div style="border: 1px solid black; width: 100px; text-align: center;">78.9</div>	psi						
COST DATA		Total annual cost of operating water system:		<div style="display: flex; align-items: center;">+ ? 10</div>	<div style="border: 1px solid black; width: 100px; text-align: center;">\$33,981,193</div>	\$/Year						
		Customer retail unit cost (applied to Apparent Losses):		<div style="display: flex; align-items: center;">+ ? 9</div>	<div style="border: 1px solid black; width: 100px; text-align: center;">\$4.49</div>	\$/100 cubic feet (ccf)						
		Variable production cost (applied to Real Losses):		<div style="display: flex; align-items: center;">+ ? 7</div>	<div style="border: 1px solid black; width: 100px; text-align: center;">\$662.96</div>	\$/acre-ft						
<input type="checkbox"/> Use Customer Retail Unit Cost to value real losses												
WATER AUDIT DATA VALIDITY SCORE:												
*** YOUR SCORE IS: 82 out of 100 ***												
A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score												
PRIORITY AREAS FOR ATTENTION:												
Based on the information provided, audit accuracy can be improved by addressing the following components:												
1: Volume from own sources												
2: Unauthorized consumption												
3: Systematic data handling errors												